PREVENTION: THE STATE OF KNOWLEDGE*

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IT is significant that the question of the state of our knowledge with respect to prevention should be so troublesome at a time when there have been so many impressive developments in the understanding of curative medicine and the mechanisms of disease. Indeed, Dr. George Rosen raised the corollary question: Why has preventive medicine not been more universally practiced? He provided a superb summary of the history of preventive measures which does not in itself fully answer that question. The answer to his question arises at least partially from a persistent scepticism on the part of physicians as to whether "the game is worth the candle." They are not convinced that our knowledge is sufficient to warrant the full-scale employment of the preventive measures we do have—excluding, of course, immunizations, the efficacy of which has been incontrovertibly demonstrated.

When the subject of prevention is raised, one invariably encounters a logomachy between passionate believers and passionate sceptics. This ideological engagement often obscures any attempt to examine the data objectively. However, the issues clearly transcend whatever meaning the data might have, since most of the measures we now think essential in an effective preventive medical program demand changes in personal behavior. We are, understandably enough, unwilling to take measures on a broad scale to modify the nation's eating, smoking, drinking, or driving habits without strong assurances that the benefits will outweigh the inconveniences and justify the self-discipline required.

The speakers in this panel have approached the question cautiously, with warnings that our knowledge is, at best, uncertain and that more research is needed. Dr. David Sackett was the most astringent. His

*Presented in a panel, Prevention: The State of Knowledge, as part of the 1974 Annual Health Conference of the New York Academy of Medicine, *Prevention and Health Maintenance Revisited,* held at the Academy April 25 and 26, 1974.

exemplary analysis of the advantages and disadvantages of screening is the sort we need for other recommended preventive measures. Only then can we evaluate their utility and decide whether they should be applied vigorously to large populations. Dr. Sackett's conclusion that selective screening has some genuine utility is modest enough. The same restrained conclusions might emerge from similar analyses of other preventive measures, although other measures might prove less readily quantifiable than screening.

Dr. Oglesby Paul has taken a somewhat more enthusiastic stance regarding the state of our knowledge of preventive measures against cardiovascular disorders. He pays particular attention to the early treatment of hypertension. Here too, we must await the results of the application of this measure before we can answer the necessary questions of efficacy, efficiency, and safety.

Drs. Paul and Sackett emphasized selective preventive measures, in contradistinction to Dr. Warren Winkelstein, Jr., who recalled our attention to the Hippocratic ideal of prevention: the ecological approach. Dr. Winkelstein cited data which indicated that socioeconomic and environmental factors may be as significant in the prevention of cardiac disorders and malignant neoplasms as specific preventive measures. He would have us improve the conditions of living of all our citizens as an essential first step in preventive medicine. The validity of his hypothesis will be more difficult to establish than were the selective and specific measures which are currently favored, such as diet, exercise, and cessation of smoking. As Dr. Sackett intimates, the more ecological and general the mode of prevention, the more susceptible it is to charges of mysticism. It must be admitted, however, that a stance based on ideology rather than proof is easier to assume in this realm than in that of selective prevention—which has not been entirely free of this danger either.

There is an apparent, but not a real, conflict between the selective approach to prevention emphasized by Drs. Sackett and Paul and the ecological one underscored by Dr. Winkelstein. These modes are by no means mutually exclusive. They can and should be pursued simultaneously. The difference is that the general ecological measures pertinent to the promotion of health can be applied by those outside the medical profession. This would be consistent with Dr. Paul's assertion—with which I personally agree—that most physicians are tradi-

tionally and culturally unprepared to practice preventive measures—even the selective ones on which most of us might agree. This may not be as frustrating to the objectives of preventive medicine as we might suppose. Whenever a preventive measure has become notably effective on a large scale—e.g., immunization and sanitary measures in food and water supply—generally it has moved out of the hands of the physician. Some of the measures discussed here—selective screening, early detection and treatment of hypertension, cessation of smoking—can more readily and more effectively be applied on a wide scale if they are assigned to other health professions, leaving the physician to work with curative or ameliorative medicine.

This is a different conception of medicine and of the physician than that exemplified by Greek medicine, where the concepts of health and culture were so closely intermingled that Werner Jaeger called medicine "the root and fruit" of the Greek cultural ideal of Paidea.* The Greek physician would easily accept the ecological hypothesis of prevention which Dr. Winkelstein proposed here. But then, the Greek physician was not required to master the technical aspects of modern medicine. The expectations of his society were more congruent with a prime role in the promotion of health for the physician than is the case in our times.

Today, it is more realistic to plan on the application of preventive measures by health professionals other than physicians, with the important provision that they work closely with the physician. The articulation of preventive, curative, and rehabilitative medicine is essential to the optimal realization of each. Extending the roles of nurses, physicians' assistants, and other allied health professionals to include the application of our knowledge of preventive medicine seems the appropriate path to take in our technical, specialist-oriented society.

Whether we can attain the same degree of harmony between medicine and general cultural ideas which characterized ancient Greek life is problematic. I believe that it is possible, particularly if we examine the present state of medicine, philosophy, and the other humanistic disciplines.†

*Jaeger, W.: *Paidea.* New York, Oxford University Press, 1944, vol. 3.

†Pellegrino, E. D.: *Medicine and Philosophy.* Philadelphia, Soc. for Health and Human Values, 1974.

Speakers at this conference have illuminated the present state of our knowledge of prevention to some degree. What should we do now in the practical realm? Must we await certainty before we undertake a more vigorous national and personal effort in either selective prevention or the ecological approach? If we adopt this position, we shall deprive many people of the benefits of sensible diet, weight control, exercise, cessation of smoking, early treatment of hypertension, accident prevention, and the rest. The present state of our knowledge was no doubt examined at this conference because many physicians and policy makers are yet to be convinced of this. As Dr. Rosen has shown, we are still wondering why we do not practice the promotion of health.

While we examine the area of prevention, we must not dismiss those few things we can do now, provided they are done with good sense and with some measure of the harmony which the Greeks infused into their medical practice. This requires that we recognize that we do have real gaps in our knowledge about prevention. As long as effective communication is maintained between the research and clinical sectors of preventive medicine both groups shall have access to the necessary feedback data. This control will forestall the wide application of measures which might be more harmful, expensive, or restrictive than functional.

Our knowledge of prevention must be continually examined lest we slip into a passionate defense of preventive medicine and health as an ideology or, equally fallaciously, decide that the whole effort rests on so flimsy a scientific basis that we should not make the effort. Both positions are more comfortable than the laborious examination of our knowledge and the prudent application of what we now know, while standing ready to alter our course if the data dictate otherwise.